

Amendments to the Specification:

On page 7, lines 28-32, please replace the paragraph with the following replacement paragraph:

In a preferred embodiment the peptide is a nonapeptide with the amino acid sequence YRQFVTGFW (SEQ ID NO: 1) where: Y, tyrosine; R, arginine; Q, glutamine; F, phenylalanine; V, valine; T, threonine; G, glycine; W, tryptophan.

On page 7, line 33 – page 8, line 4, please replace the paragraph with the following replacement paragraph:

In an alternative embodiment of the invention the peptide, which has a consensus amino acid sequence for peptides with reactivity to MAb B6.1, selected from the group consisting of, ArXXAr (Z) ZZArAr (SEQ ID NO: 8); where: Ar, aromatic amino acid (F, W or Y); X, any amino acid; Z, equals S, (where S, serine), T or G; (Z), is S, T, or G which may or may not be present.

On page 8, lines 15-22, please replace the paragraph with the following replacement paragraph:

In an alternative embodiment of the invention, the polynucleotide vaccine comprises a DNA construct coding for a consensus amino acid sequence for peptides with reactivity to MAb B6.1, selected from the group consisting of, ArXXAr (Z) ZZArAr (SEQ ID NO: 8); where: Ar, aromatic amino acid (F, W or Y); X, any amino acid; Z, equals S, (where S, serine), T or G; (Z), is S, T, or G which may or may not be present.

On page 10, lines 21-32, please replace the paragraph with the following replacement paragraph:

Finally the invention provides a peptide mimotope specific to the mannan portion of the phosphomannan complex of candidiasis wherein said peptide has the amino acid sequence YRQFVTGFW (SEQ ID NO: 1); where: Y, tyrosine; R, arginine; Q, glutamine; F,

phenylalanine; V, valine; T, threonine; G, glycine; W, tryptophan, or function equivalents of said peptide. In a preferred embodiment the peptide has a consensus sequence of amino acids selected from the group consisting of, ArXXAr (Z) ZZArAr (SEQ ID NO: 8); where: Ar, aromatic amino acid (F, W or Y); X, any amino acid; Z, equals S, (S, serine), T or G; (Z), is S, T, or G which may or may not be present.

On page 21, lines 5-15, please replace Table 1 with the following replacement Table 1:

Table 1. Peptide Sequences from Mab B6.1 Reactive PDPL Clones

Type of Clone	No. out of 54 clones	Peptide Sequence from MAb B6.1-reactive PDPL clones																
PS2	8	P	P	G	L	Y	W	S	G	P	P	V	W					<u>SEQ ID NO: 2</u>
PS76	4		P	P	G	W	F	G	T	V	F	Q	R	Y				<u>SEQ ID NO: 3</u>
PS31	38		P	P	G	W	Y	G	G	Y	T	K	Y	H				<u>SEQ ID NO: 4</u>
PS28	2		P	P	G	W	F	G	G	T	T	L	Y	S				<u>SEQ ID NO: 5</u>
PS55	2				S	W	Y	E	G	L	R	L	I	G	P	P		<u>SEQ ID NO: 6</u>

On page 26, line 31- page 27, line 15, please replace the paragraph with the following replacement paragraph:

Synthetic peptide inhibits binding of MAb B6.1 to its' carbohydrate epitope. On the basis of inhibition studies with intact phage clones, the nonapeptide displayed by phage clone PS76 was chosen for synthesis and used in inhibition studies. We obtained a synthetic 13-mer peptide (Bio-synthesis, Lewisville, TX), YRQFVTGFWGPPC (SEQ ID NO:7), which was designed to include the PS76 nonapeptide sequence (designated as PS76p) plus the 3 amino acid pIII tether (GPP) and an added cysteine (C) to facilitate peptide coupling to a carrier protein, such as keyhole limpet hemocyanin (KLH). Due to the high number of hydrophobic amino acids in the synthesized PS76p, solubility tests were run to determine conditions for dot blot inhibition studies. The PS76p was soluble in trifluoroacetic acid, dimethylsulfoxide, 20% v/v acetic acid,

citrate and acetate buffers below pH 5.4, borate buffer above pH 8.5, but not soluble in deionized water, phosphate buffered saline (PBS), 15% v/v dimethylformamide, chloroform, or methanol.

On page 30, lines 13-30, please replace the paragraph with the following replacement paragraph:

Administration of PS76p as a multiple antigen peptide (MAP) construct. The nonapeptide PS76p (YRQFVTGFW (SEQ ID NO: 1); where: Y, tyrosine; R, arginine; Q, glutamine; F, phenylalanine; V, valine; T, threonine; G, glycine; W, tryptophan) was synthesized on a branched-lysine core to produce eight, radically displayed peptides (Bio-synthesis, Lewisville, TX). This MAP construct, PS76-MAP, when mixed with PBS is slightly soluble compared to the PS76p alone. PS76-MAP was administered to BALB/C mice (4 animals, 25 µg per dose) by s.c. immunizations with Ribi adjuvant. Intervals for booster immunization and obtaining serum samples were as above. The ELISA titer for pooled anti-PS76-MAP antiserum after the first boost was 40 against 2ME extract. ELISA tests performed with class-specific secondary antibody reagents confirm that the anti-PS76-MAP response is primarily IgM, as seen in Figure 6.

On page 31, lines 19-21, please replace the paragraph with the following replacement paragraph:

YRQFVTGFW (SEQ ID NO: 1); where: Y, tyrosine; R, arginine; Q, glutamine; F, phenylalanine; V, valine; T, threonine; G, glycine; W, tryptophan.

On page 31, line 25- page 32, line 2, please replace the paragraph with the following replacement paragraph:

ArXXAr (Z) ZZArAr (SEQ ID NO: 8); where: Ar, aromatic amino acid (F, W or Y); X, any amino acid; Z, equals S, (where S, serine), T or G; (Z), is S, T, or G which may or may not be present. As is clear to those of skill in the art, one can devise functional equivalents to any of the above sequences and routinely test the amino acid sequences to determine if they maintain their functional integrity and properties. The functional equivalents may be longer or shorter in length

than the disclosed nonapeptide. In one embodiment the sequence has 4-12 amino acids. In an alternative embodiment the sequence has 5-9 amino acids.

On page 32, line18- page 33, line 20, please replace the paragraph with the following replacement paragraph:

Phage clones isolated by affinity selection with protective MAb B6.1 have N-terminal display of nonapeptides on the gene 3 protein (g3p or pIII). Data indicate that the nonapeptides function as structural mimics of the *Candida* β -1,-trimannosyl epitope recognized by MAb B6.1. The planned DNA vaccines will encode one or more of these nonapeptide sequences to elicit host immune responses with the potential to confer protection against the candidiasis. To explore the properties of the designed and constructed DNA vaccines, the expression of encoded peptides and antigens is being evaluated first in cultured mammalian cells. All or part of the phage gene 3 has been included in the initial DNA constructs (diagram shown in Figure 7), in order to re-create the phage-displayed peptide mimotopes that are recognized by MAb B6.1. This g3p-peptide mimotope construct was suggested from data indicating that mice immunized with phage-displayed nonapeptides produced greater antibody titers and IgG responses against *Candida* 2ME extract compared to animals receiving synthetic peptide alone. Thus, the relevant conformation of peptide mimotopes may depend on its attachment to the phage protein, and the phage protein may serve as an immunogenic carrier for the peptide. Four constructs have been tested: two are negative controls, representing the parent phage protein without the N-terminal peptide addendum of 9 random amino acids and a 3 amino acid linker (GPP); the other two represent the most promising B6.1-reactive library clone, PS76, which has the sequence YRQFVTGFW (SEQ ID NO: 1) at its amino terminus.

After page 107, please add the attached Sequence Listing.